**LITHOLOGY** 

## **DESCRIPTION OF MAP UNITS**

## Qfl Qms Qal1 Qaf Qac Qcg. Qcf Qst Qal2 Qafg. Qafc Qmsc Unconformity QTsl QTsq Unconformity **TERTIARY** Tv Unconformity TKnh Unconformity **CRETACEOUS** Ki **JURASSIC** Unconformity Jn Unconformity **TRIASSIC** Ppc **PERMIAN**

**CORRELATION OF MAP UNITS** 

## MAP SYMBOLS

Inverted antiformal syncline

PPo

Note: Symbols dashed where approximate, dotted where concealed. Strike and dip of bedding \_\_ı\_40 Approximate strike and dip of bedding Strike and dip of overturned bedding Spring or seep Debris-flow scarp and path Rotational slump scarp and path Small mass movement Contact Normal fault; bar and ball on downthrown side, hachures show scarp ---- Normal fault inferred from air photos; may be slump scarp - - - - High-angle reverse fault; teeth on upper plate Strike-slip fault ----- Contact of ancient landslide unit Plunging anticline Plunging syncline Overturned plunging anticline Inverted synformal anticline

QUATERNARY

Artificial deposits: Fill used to build dams, retaining ponds, Qfl and other man-made structures.

Slope-wash deposits: Generally fine-grained colluvial

Qac debris modified by fluvial processes.

Gravelly colluvial deposits: Coarse gravel. Qcg-

Fine-grained colluvial deposits: Fine-grained sand and Qcf silt derived from the Twist Gulch Formation and overlying regolith.

Level-1 alluvial deposits: Coarse-grained, poorly sorted, locally derived, gravel, sand, and silt. Often with a soil profile on surface. Up to about 50 feet (15 m) thick.

Level-2 alluvial deposits: Poorly sorted, locally derived, sand, gravel, silt, mud, and boulders. Deposits are elevated relative to active streams and are dissected by level-1 alluvial deposits. Upper surfaces of deposits

Calcareous spring tufa: Light to medium gray, vesicular, Qst calcareous tufa.

are planar and slope away from mountains.

Holocene mass-movement deposits: Very poorly sorted Qms boulder- to clay-sized material deposited by slumps, debris flows, and avalanches. Most are on or at the base of steep slopes. Many were active in 1982 and 1*983*.

Pleistocene mass-movement deposits: Very poorly sort-Qmsc ' ed boulder- to clay-sized material deposited primarily by slow periodic creep as toreva blocks, but also by debris flows and avalanches. Most have been dissected by streams, and surfaces have been subdued by erosion.

Level 1 alluvial-fan deposits: Moderately to poorly sorted, Qaft: locally derived material deposited at or near current base level near the mouths of canyons. Most fans are small and still actively forming.

Level 2 alluvial-fan deposits: Moderately to poorly sorted, Qaf<sub>2</sub> locally derived boulder- to clay-sized material deposited at or near the mouth of canyons. These deposits have been incised and isolated by down-cutting streams.

Coalesced alluvial-fan deposits: Poorly to moderately Qafc well-sorted boulder- to clay-sized material deposited in large alluvial fans extending into Juab Valley. The material is coarser near the mountain fronts and becomes finer grained toward the center of the valley.

QUATERNARY-TERTIARY

Quartzite-rich unit of Salt Creek Fanglomerate; Polymodal QTsq conglomerate, dominant quartzite with lesser limestone clasts; locally well cemented.

Limestone-rich unit of Salt Creek Fanglomerate: Polymodal, polymictic conglomerate lacking quartzite clasts.

**TERTIARY** 

Tv

PENNSYLVANIAN

Lamprophyre sills: Dark-green, highly altered, calcitecemented sills, with biotite, chlorite, and minor quartz, plagioclase, magnetite, and apatite.

Volcanic deposits: Polymodal, polymictic, volcanic conglomerate with light-brown sandy and pebbly waterlain

TERTIARY-CRETACEOUS

North Horn Formation: Light-gray to pale-red polymodal, bimictic, clast-supported, conlgomerate and orangishred to reddish-brown mudstone and sandstone.

**CRETACEOUS** 

Indianola Group, undifferentiated: Light-gray to moderate orangish-pink, polymodal, bimictic, clast-supported conglomerate. The lower portion has minor interbedded orangish-red to reddish-brown mudstone.

Cedar Mountain Formation: Orangish-red to lavendar mudstone containing nodular and thinly bedded locally oncolitic limestone, layered chalcedony, gastroliths, and petrified wood; brighter orangish quartz sandstone; reddish-orange, polymodal, bimictic, clastsupported conglomerate.

**JURASSIC** 

Twist Gulch Formation: Light-brown to pale-red, mildly feldspathic siltstone, quartz sandstone, and minor gritstone.

Arapien Shale: Light-gray to light-greenish-gray, calcare-Ja ous, locally gypsiferous, mudstone and shaley siltstone; lesser moderate-red gypsiferous and salt-bearing mudstone and siltstone.

Gypsum beds in the Arapien Shale: Large, continuous beds and pods of gypsum.

Twin Creek Limestone: Pinkish to light-gray limestone and oolitic limestone; light- to greenish-gray calcareous silty shale, and argillaceous limestone.

Gypsum beds in the Twin Creek Limestone: Large, continuous beds and pods of massive, white gypsum.

Navajo Sandstone: Salmon-colored quartz sandstone, locally white; white reduction spots common.

TRIASSIC

Triassic strata, undifferentiated: Reddish mudstone and intensely fractured siltstone that may be parts of any of the Triassic formations described below.

Ankareh Formation: Variegated quartz sandstone with Ta dark-reddish-brown clay chips and white reduction spots in the lower part; polymictic conglomerate in the middle part; variegated quartz sandstone, pebbly, polymictic, lavender to reddish-brown mudstone and siltstone, and lavender quartz sandstone in the upper part.

Thaynes Limestone: Brown-weathering, light-to greenishgray argillaceous limestone with wavy fissility in the lower portion; light- to medium-gray limestone with interbedded sandstone and argillaceous limestone in the upper portion.

Woodside Formation: Uniform pale-red to pale-brown fine-grained quartz sandstone and siltstone.

**PERMIAN** 

Park City Formation, undifferentiated: Undifferentiated Ppc strata of either the Franson or the Grandeur Member of the Park City Formation.

Franson Member of the Park City Formation: Light- to medium-gray limestone, locally with reddish-brown siltstone in the upper part.

Meade Peak Phosphate Shale Tongue of the Phosphoria Formation: Bedded black chert with interbedded palebrown-weathering medium-gray dolomite.

pinkish-gray limestone and dolomitic limestone; locally sandy and crossbedded.

Grandeur Member of the Park City Formation: Light- to

Diamond Creek Sandstone: Pale-yellow, locally pale-red Pd calcareous quartz sandstone.

Kirkman Limestone: Light- to medium-gray limestone and cherty limestone with interbedded brownish-gray siltstone; the middle portion has light- to medium-gray dolomitic limestone with white silicified fusilinids.

PERMIAN-PENNSYLVANIAN

Oquirrh Group: Light-gray to dark-brownish-gray lime-PPo stone often fetid and fossiliferous; and interbedded light-brown-weathering, brownish-gray limy siltstone.

## SYSTEM SYMBOL **FORMATION** LITHOLOGY younger 0-50+ Q unconsolidated (0-15+)deposits QUATERNARY older 0-5200 unconsolidated Q 0-1580 deposits Salt Creek 0-500+ QTsq Q (0-150+)Fanglomerate *FERTIARY* 0-500+ Tertiary Volcanics Tv (0-150+)Pal. North Horn 0-600? **TKnh** Formation (0-1837? CRETACEOUS Indianola Group 7150 Ki (2179)undifferentiated 500-680 Cedar Mtn. Kcm (150-207) Formation Twist Gulch 1200+ Jtg Formation (366+)3500-4000 JURASSIC Arapien Shale Ja (1067-1219) Twin Creek 800 Bath Jtc (245)Limestone 1000? Navajo Sandstone (305)? 800-? Ankareh Formation Ŧа (244-?)700-800 Thaynes Limestone S (210-245) ΒÜ 200-240 Woodside Formation ħw (60-73)Franson 650? Ppf (200)? Member 130-150 Meade Peak Ppm (40-45)Member Grandeur 650? Ppg PERMIAN (200)? Member

Diamond Creek

Sandstone

Kirkman Limestone

Oquirrh Group

**Undifferentiated** 

PENN.

20-300

(6-90)

300-400

(90-120)

11,500

(3505)

Pd

Pki

₽₽o





